

### ***AMENDMENT TO THE CLAIMS***

This listing of claims will replace all prior versions, and listings, of claims in the application.

#### ***Listing of claims:***

1. (Currently amended) A method for combining a first material and a second material, comprising the steps of:

(a) providing a fluid which is near or in the supercritical fluid state,

(b) at least partially dissolving the first material in the fluid,

(c) only subsequently incorporating the solution of the first material and the fluid into the second material to form a single phase solution from the first material, the second material and said fluid, and

(d) removing said fluid from said solution in order to leave the combined first and second materials.

2 - 3. (Canceled)

4. (Previously presented) A method as claimed in claim 1, wherein the second material is provided in a semi-solid or molten state.

5. (Previously presented) A method as claimed in claim 1, wherein the fluid is removed from said solution by reducing the pressure in order to vent the fluid to atmosphere as a gas.

6. (Previously presented) A method as claimed in claim 1, wherein the fluid is removed from said solution by suction.
7. (Previously presented) A method as claimed in claim 1, wherein the fluid is carbon dioxide, water, nitrogen or any combination thereof.
8. (Previously presented) A method as claimed in claim 1, wherein said solution is processed in order to produce a final product.
9. (Original) A method as claimed in claim 8, wherein the processing is extrusion or injection moulding.
10. (Previously presented) A method as claimed in claim 1, wherein the first material is a material which alters the function of the second material.
11. (Previously presented) A method as claimed in claim 1, wherein the first material comprises a mineral, a vitamin, a fullerene, a metal, a non-metal, a herb, a naturally occurring material, caffeine, an organic material, a plastics material, a monomer, an oligomer, a polymer, or any combination thereof.
12. (Previously presented) A method as claimed in claim 1, wherein a co-solvent is added to said fluid either before, after or during the formation of said single phase

solution.

13. (Original) A method as claim in claim 12, wherein the proportion of co-solvent to said fluid is about 1:20.

14. (Previously presented) A method as claimed in claim 12, wherein the co-solvent comprises methanol, ethanol, propanol, butyl alcohol, propylene carbonate, toluene, pentane, acetylacetone, octane, acetone or any combination thereof.

15. (Previously presented) A method as claimed in claim 1, wherein the second material comprises a polymer, a ceramic, a metal or wood.

16. (Cancelled)

17. (Previously presented) A method as claimed in claim 1, wherein the method is a continuous process.

18. (Previously presented) A method as claimed in claim 1, wherein the method is a polymer melt processing technique and wherein the second material is provided in a semi-solid or molten state.

19. (Previously presented) A method as claimed in claim 18, wherein the polymer melt processing technique is injection moulding, extrusion, blow moulding, vacuum

forming, thermoforming, or rotational moulding.

20. (Previously presented) A method as claimed in claim 19, wherein the technique is extrusion or injection moulding.

21. (Previously presented) A method as claimed in claim 1, wherein the second material is not swollen by the fluid.

22. (New) A method for combining a functional material and a bulk material during a polymer melt processing technique, wherein the functional material alters the function of the bulk material, comprising the steps of:

- (a) providing a fluid which is near or in the supercritical fluid state;
- (b) at least partially dissolving the functional material in the fluid to form a functional fluid;
- (c) introducing the functional fluid into polymer melt processing equipment;
- (d) separately introducing the bulk material into polymer melt processing equipment the bulk material being in a semisolid or molten state;
- (e) incorporating the functional fluid into the bulk material within the polymer melt processing equipment to form a single phase solution of the functional material, the bulk material and the fluid; and
- (f) removing said fluid from said solution in order to leave the combined functional and bulk materials.